

Alex John, M.D.

Forensic Pathologist

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## I. INTRODUCTION

I was retained by defense counsel, Austin Young, on behalf of Turn Key Health Clinics to consult in the case of PATRICIA THOMPSON, as Personal Representative of the Estate of MARCONIA KESSEE v. NORMAN REGIONAL HOSPITAL AUTHORITY d/b/a NORMAN REGIONAL HOSPITAL, a public trust, et. al. Case No. CIV-19-113-SLP

I have been asked to review medical records, death certificate and other documents relating to the death of Mr. Marconia Kessee and opine regarding the cause, manner and mechanism of death. My rate for consulting and court deposition testimony is as follows: Case Materials Review-\$1,200.00; Hourly Fee: -\$395.00/hour (Local deposition-5-hour minimum; out of town deposition-8-hour minimum). Travel time reimbursed at \$250/hour as applicable. Travel expenses are charged per actual cost.

## II. BACKGROUND AND EDUCATION

I have been a Forensic Pathologist in the State of Texas and State of Oklahoma.

### QUALIFICATIONS OF ALEX JOHN, M.D. AS AN EXPERT:

#### A. BOARD CERTIFICATIONS:

American Board of Pathology

Anatomic and Clinical pathology: 2012

Forensic Pathology: 2013

#### B. STATE MEDICAL LICENSURE

Texas-Since 2012

#### C. EDUCATION AND TRAINING

**July 2010 to June 2011**

Fellow in Forensic Pathology

Harris County Institute of Forensic Sciences



Houston, TX

**July 2006 to June 2010**

Resident in Anatomic and Clinical Pathology Oklahoma University Health Sciences Center, Oklahoma City, OK.

**Graduated 2000**

Swami Ramanand Teerth Medical College Ambajogai, India.

Degree: Bachelor of Medicine, Bachelor of Surgery

**D. PROFESSIONAL MEMBERSHIPS**

National Association of Medical Examiners

**E. HONORS**

Kaplan Honor Society (2005)

National Deans List (2006)

Co-Chief resident (2009 to 2010)

**F. PUBLICATIONS AND PRESENTATIONS**

1. **A John**, D. A. Wolf, J. Petrash, S. Flores, BS; Dustin Foley, Lisa Gefrides, Roger Kahn, DNA Extraction From Paraffin Blocks: Organ Selection and Pre-Embedding Fixation Times- Practical Implications for Forensic Pathologists. Proceedings of the American Academy of Forensic Sciences. February 2011, Vol XVII: 265
2. J. Petrash, S. Flores, D. Foley, L. Gefrides, **A. John**, D. A. Wolf, R. Kahn, Evaluation of Deparaffinization Techniques and DNA Extraction Methods for Formalin-Fixed Paraffin-Embedded Tissue. Proceedings of the American Academy of Forensic Sciences. February 2011, Vol XVII: 122
3. **A. John**, T. Foster, R. Allen, S. T. Dunn, S.S. Bottomley. Severe Phenotype of HFEAssociated Hemochromatosis Arch of Pathol & Lab Med 2009; Vol 133(10):1670. CAP 2009 J. Saremian, A. John, D. Warden, S. Lightfoot. Bilateral Synchronous Testicular Involvement in Multiple Myeloma Arch of Pathol & Lab Med. 2009 Vol 133(10):1651 CAP 2009
4. **A John**, E Harp, W Aronson, N Bakshi. Hemophagocytic Lymphohistiocytosis in a Newborn Associated With Neonatal Giant Cell Hepatitis, Arch of Pathol & Lab Med. 2007; Vol 131(9):1461. CAP 2007.
5. A. John, J. Saremian, C. Alexander, K.E, Blick. Making Sense of Sirolimus Measurements by Immunoassay, Oklahoma State Association of Pathology Meeting

### III. CASES

I have testified as an expert and deposed in the following cases in the last 4 years:

August 14 <sup>th</sup> , 2018	16-509	Def Nelson Segovia Amaya Case number-16-12-14898	9th District Court, Montgomery county, Texas
January 18, 2019.	18-0096	~State v. Rafael Leos-Trejo~ Cause number 18-03-03902	435 Judicial district court, Montgomery, Texas
April 11, 2019	ML15-3154	State vs Juan Macedo Cause Number 1494135	Harris county, Texas
Feb 4 2020	ML15-4483	State of Texas vs Eric Anderson Case number 149207301010-3	230 district court, Harris county, Texas
March 16 <sup>th</sup> 2021	Sanders v Turnkey	CIVIL Case No. 17-cv-492-JHP-FHM.	Zoom deposition testimony

### IV. MATERIALS REVIEWED

In preparation for forming the opinions expressed below, in addition to my experience as a forensic pathologist, I have reviewed the following materials:

1. Turn key health medical records

2. Medical examiners autopsy report
3. Norman regional medical records
4. Red Rock Behavioral Health Services medical records
5. Plaintiff's second amended complaint
6. Oklahoma state bureau of investigation report
7. Cleveland county sheriff's office criminal investigations detachment
8. Deposition of Dr. Steven Roberts
9. Deposition of Justin Holbrook, APRN-CNP
10. Deposition of Clayton Rickert, LPN at jail, Turnkey medical
11. Plaintiff's expert report-William Sawyer, PhD
12. Plaintiff's expert report-Michael Jobin, M.D., FACEP
13. Videos
14. American heart association journal- Arteriosclerosis, Thrombosis, and Vascular Biology Volume 39, Issue 9, September 2019; Pages 1739-1746
15. Forensic Pathology: Edition 2, Dominick DiMaio; Vincent J. DiMaio; Jun 2001; Pages 58-61; 525,526
16. Sharad Sawant, Steven Daviss: Am J Psychiatry 161:4, April 2004; Page 757 "Seizures and Prolonged QTc With Atomoxetine Overdose"
17. Balkan Med J 2013; 30: 248-9 • DOI: 10.5152/balkanmedj.2012.094 Case Report: "Seizures After Overdoses of Bupropion Intake" Department of Emergency Medicine, Selçuk University Selçuklu Faculty of Medicine, Konya, Turkey Hasan Kara, Ahmet Ak, Ayşegül Bayır, Demet Acar, Rabia İstanbulluoğlu, Selim Değirmenci

## V. SUMMARY OF DOCUMENT REVIEW

Mr. Kessee had a history of asthma, diabetes, hypertension (high blood pressure), migraines, chronic back pain, bipolar, attention deficit hyperactivity disorder (ADHD), ethanol abuse and substance abuse.

Circumstances of Death: The decedent was a 35-year-old man who presented to the Norman Emergency Department complaining of a headache and demanding drugs on 16 January, 2018 at 5:36 PM. He was examined and discharged at approximately 7:07 PM. Subsequent to his discharge he refused to leave the hospital premises. Staff called the Norman Police Department who arrested the decedent and took him to Cleveland County Jail where he arrived at approximately 7:44 pm. He banged his head against the wall so the jail staff transferred him to a

padded cell and kept a 15 minute check on him. During a check at approximately 9:53 PM, staff found him unresponsive and transported him back to the Norman Emergency Department where he was pronounced on 16 January, 2018 at 10:37 PM.

## VI. DISCUSSION AND OPINION

As a forensic pathologist, I regularly analyze and review medical records in civil and criminal cases and perform autopsies to arrive at appropriate cause and manner and mechanism of death. My death investigation is data driven and free from subjective bias.

The cause of death in the case of Mr. Kessee is acute combined toxic effects of methamphetamine, bupropion and atomoxetine and the manner of death is accident. As a forensic pathologist for over a decade I have certified numerous deaths due to prescription drug toxicity and illicit drug toxicity.

In the medical records submitted and reviewed by me, no prescription for methamphetamine was identified. It also appears from my review of medical records that Mr. Kessee had a history of illicit drug use (polysubstance abuse). Given the medical history of illicit drug use and no identifiable prescription for methamphetamine, there is high likelihood that methamphetamine is procured as an illicit street drug. Illicit drugs or street drugs used alone or in combination with prescription drugs are extremely dangerous and known to cause sudden death. There is no safe dose or acceptable blood level of an illicit drug (methamphetamine). Methamphetamine results in deleterious consequences to the cardiovascular system and the neurological system. Its effects on the cardiovascular stimulant result partly due to blocking of norepinephrine reuptake and increase catecholamine release. Its effects on arteries and blood vessels can manifest as elevated blood pressure, elevated heart rate, vasospasm, and build up atherosclerotic plaques. In addition, methamphetamine is directly toxic to the cardiac muscle, causes death of the myocytes (cardiac muscle cells) which leads to structural and electrical remodeling by myocyte hypertrophy and fibrosis. Such electrical and structural remodeling predisposes to cardiac arrhythmias, cardiomyopathy and heart failure. Its effects on the neurological system results from release of dopamine and blocking its reuptake causing hyperstimulation of neurons which could give rise to seizures. The mechanism of death due to seizures is most probably due to cardiac arrhythmia precipitated by an autonomic discharge. The autonomic nervous system, especially the sympathetic portion controls the heart rate, blood pressure and cardiac extra-systoles. Toxic effects methamphetamine include anxiety, hallucinations, cardiac arrhythmias, hypertension, hyperthermia, and convulsions/seizures.

Atomoxetine was prescribed to Mr. Kessee for the treatment attention deficit hyperactivity disorder (ADHD). Atomoxetine is a norepinephrine reuptake inhibitor. Toxic effects of atomoxetine include anxiety, tachycardia and seizures. Deaths due to atomoxetine toxicity are extremely rare either when taken alone or in combination with other drugs.

Bupropion was prescribed to Mr. Kessee as an antidepressant. Toxic effects of bupropion include delirium, seizures, tachycardia and agitation.

In this case the drugs methamphetamine, atomoxetine and bupropion have considerable overlap in their toxic effects. Even though, atomoxetine and bupropion have been prescribed the overlap of toxic effects with the illicit drug (methamphetamine) requires each of these three drugs to be included in the cause of death.

Methamphetamine is an illicit drug used for recreational purposes. In my experience, I have conducted postmortem examinations and encountered methamphetamine in many postmortem blood samples. In some cases, methamphetamine (without prescription) was detected in postmortem blood where death occurred due to other causes including gunshot wounds, motor vehicle crash and hanging. In these situations, methamphetamine was not the cause of death. In my opinion, it is difficult to predict which of these users with acute toxic effects of methamphetamine will die due to its deleterious effects. Similarly, in my experience I have conducted postmortem examinations on patients that show up to the hospital after an exposure to methamphetamine and even with the best of medical care could not be saved. There is no known antidote specific to methamphetamine or atomoxetine or bupropion. Medical records of decedents who died in the hospital due to acute toxic effects methamphetamine indicate that they are treated based on their signs and symptoms (high blood pressure, high heart rate, seizures) but there is no cure as the underlying pathology (i.e. toxic effects of drugs on the heart muscle leading to myocyte necrosis) cannot be reversed. And hence, both acute and chronic users are at risk for cardiac arrhythmias leading to sudden cardiac arrest. Other comorbidities including high blood pressure, other drugs that act synergistically to increase blood pressure and/or heart rate increase the likelihood of cardiac arrhythmias.

Lorazepam is used as anti-anxiety and anti-seizure medication. Lorazepam is not an antidote methamphetamine. Lorazepam does not reverse the direct cardiotoxic effects of methamphetamine leading to myocyte necrosis (death), fibrosis, myocyte hypertrophy and cardiac arrhythmias. The deadly cocktail of methamphetamine, atomoxetine and bupropion can result in a cardiac arrhythmia due to the neurologic and cardiac hyperstimulation. The toxic effects of methamphetamine is neither dose dependent nor time dependent and can happen at any time after being administered into the body. In my experience, and in published literature there is considerable overlap in individuals dying of methamphetamine toxicity and those in whom it is an incidental finding. There is no way to predict with reasonable medical certainty whether the use of pharmaceuticals to control seizures, heart rate, blood pressure will absolutely prevent cardiac arrhythmia and death in the setting of acute combined toxicity of methamphetamine, atomoxetine and bupropion.

## **V. CONCLUSION**

My opinions in this case are based upon my years of education, skills, and experience in the medical profession. A forensic pathologist is trained in the science of certifying cause, manner and mechanism of death. Mr. Kessee died due to the recreational use and toxic effects of illicit street drug methamphetamine in combination with the toxic effects of prescription drugs atomoxetine and bupropion. Mr. Kessee's use of recreational drug methamphetamine in combination with atomoxetine and bupropion proved to be fatal on 16th January 2018. Even if

the best treatment to control seizures, heart rate and blood pressure were in place, there is no way to predict with reasonable medical certainty whether a terminal cardiac arrhythmia and death could be absolutely prevented. I have reviewed hundreds of EMS (emergency medical services) report of CPR (cardiopulmonary resuscitation) as part of death investigation. Based on my reviews, terminal cardiac arrhythmia can be fatal and a return of spontaneous circulation is often temporary as the underlying pathology resulting in cardiac arrhythmia (i.e. toxic effects of drugs on the heart muscle leading to myocyte necrosis) cannot be reversed.

I declare under penalty of perjury that I have examined this report and all statements contained herein, to the best of my knowledge and belief are true, correct and complete.

I reserve the right to change or amend this opinion in the event additional documentation or information is provided in this matter.

Executed on May 14th, 2021 in Houston Texas.

  
Alex John, M.D.

Forensic Pathologist